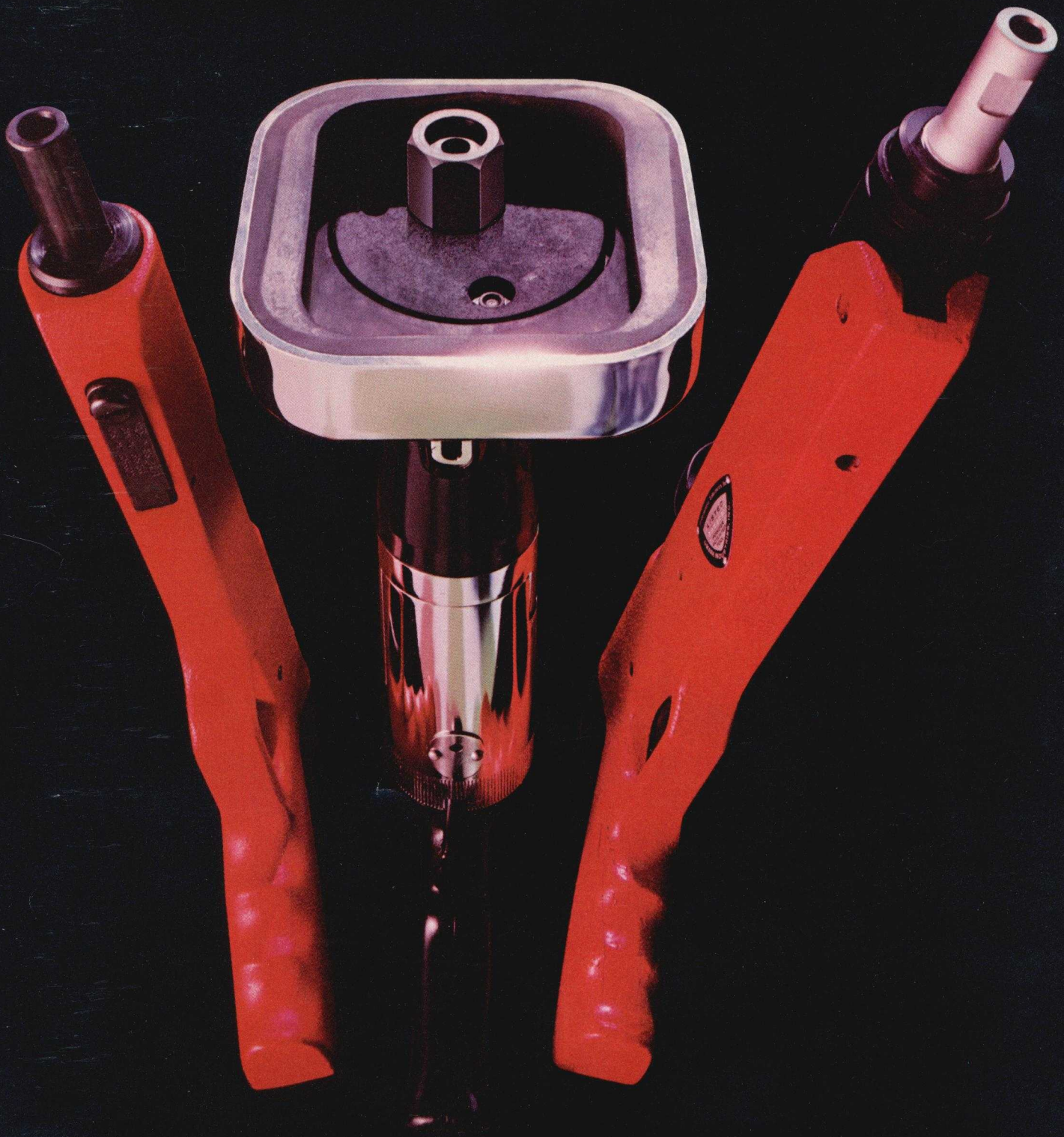
The muscle tools



Omark powder actuated fastening systems.

Construction Tools Division

OMARK INDUSTRIES

The 721

Drives ¼" and 5/16" fasteners, up to 1½" long.

The first low velocity tool reliable enough to carry an unconditional guarantee. And still one of the quietest, lowest recoil tools on the market. Our first Muscle Tool.

For more production, less fatigue.

Drives ¼" and 5/16" diameter fasteners, ½" to 1½" long. Headed or threaded. Into concrete or steel.

Uses .22 caliber loads, levels 1 thru 4.

Padded handle, cartridge ejector, and muffler mean it's an easy tool to work with. Tested and listed by Underwriters Laboratories, Inc.

Weighs 4½ pounds and is 14" long. Comes with tool box, safety goggles, spall guard, maintenance tools and operator's manual.

Tested and listed by Underwriter's Laboratories, Inc.

The 821

Drives ¼″ and 5/16″ fasteners, up to 1½″ long.

Like the 721, but with tilt-out loading and positive cartridge ejection.

Padded handle, contour finger grips and muffler permit long hours of high production with minimal fatigue.

Drives ¼″ and 5/16″ diameter fasteners, ½″ to 1½″ long. Headed or threaded. Into concrete or steel.

Uses .22 caliber loads, levels 1 thru 4.

Weighs 5 pounds, and is 14″ long.

Tested and listed by Underwriter's Laboratories, Inc.

The 823

Drives ¼″ and 5/16″ fasteners, up to 3″ long.

The low velocity tool with muscle enough to make 3″ fasteners stay put. Into steel or concrete.

Incorporates same proven design used in our Model 330 Super G for positive cartridge ejection. Coupled with tilt-out loading, even a newly trained operator can soon crank out six fastenings per minute. The low recoil, quiet operation and padded handle let him stay at it for hours without tiring.

Drives ¼″ and 5/16″ diameter fasteners, ½″ to 3″ long. Headed or threaded. All this with .22 caliber loads, levels 1 thru 4. Ideal for light and medium duty fastenings of wood plates, furring strips, brackets and metal lath. Weighs 6 pounds and is 15″ long. Tool kit same as the 721.

Tested and listed by Underwriter's Laboratories, Inc.

The 888

Drives ⅜″ fasteners, up to 3″ long.

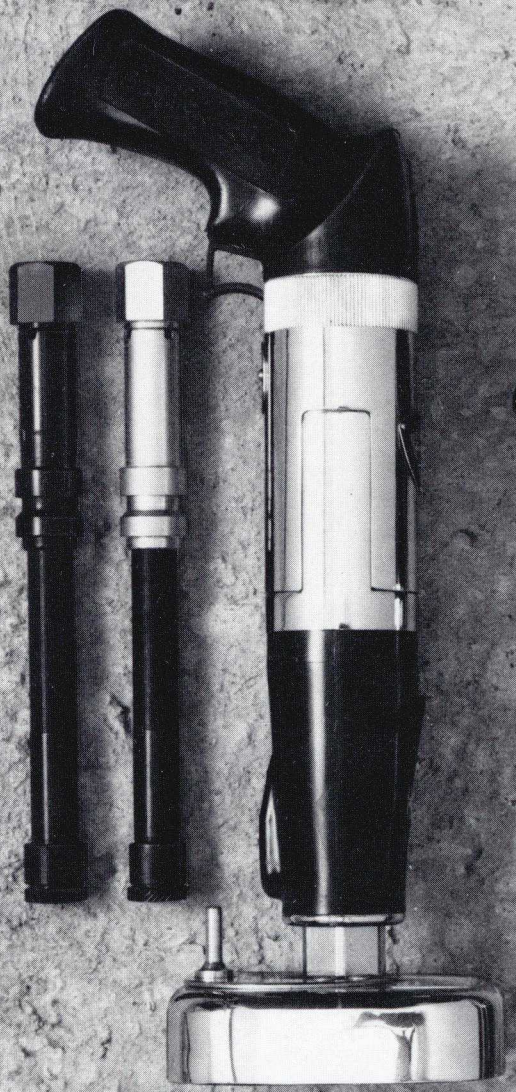
Omark piston precision with even more muscle.

Enough to drive ⅜″ fasteners, a full 3″ long, into concrete or steel.

Surprisingly low recoil, quiet discharge and padded handle make this power-house a pleasure to use. Hour after hour. With very low fatigue factor. Handles ⅜″ diameter fasteners, up to 3″ long. Headed or threaded. With .22 caliber power loads, levels 3 thru 6. Weighs 7 pounds and is 15″ long.

Tested and listed by Underwriter's Laboratories, Inc..

Specialty tools.



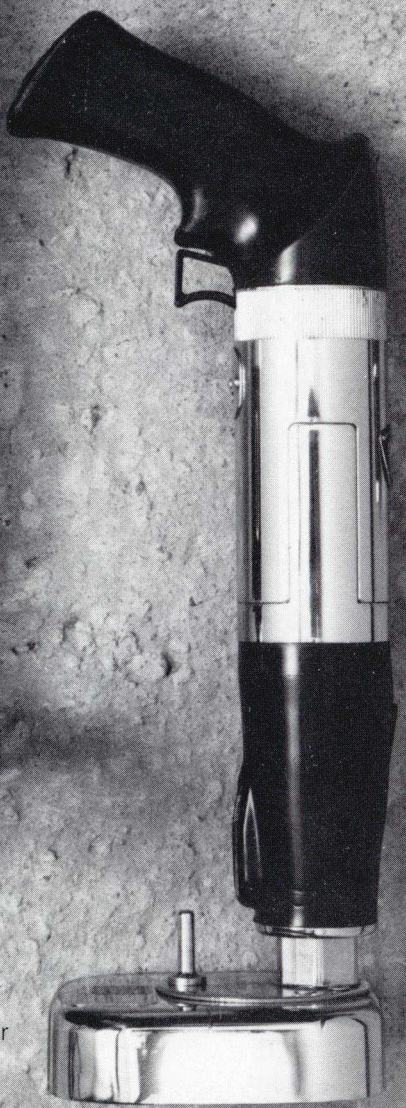
The 330 BP-4 and BP-8.
The same fine tool as the 330 Super G but with interchangeable barrels and breech plugs instead of automatic cartridge ejector.

BP-4 has ¼" barrel, BP-8 has ⅜" barrel. With both barrels it can handle 90% of all your medium and heavy duty fastening jobs.

Uses either .22 or .25 caliber breech plugs for maximum flexibility and economy.

Tested and listed by Underwriters Laboratories, Inc.

Weighs 6¾ pounds and is 14" long.



The Standard Velocity 330 Super G.
Here's the highest quality standard velocity fastening tool you can get your hands on. Bar none.

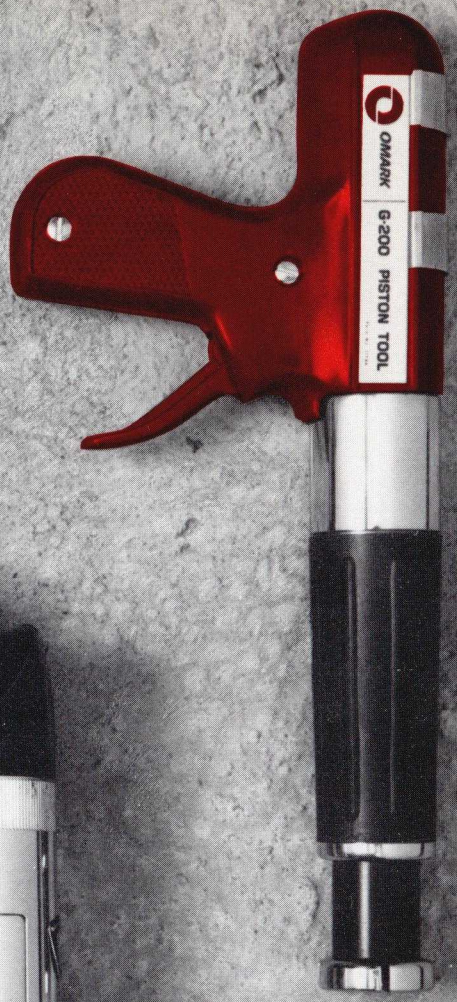
Automatic cartridge ejection and swing out breech allow 6 fastenings per minute. Easily.

Drives ¼" diameter fasteners from 1" to 3½" long. Headed or threaded. Into the hardest concrete and solid steel.

Made from hardened alloy steels, the smooth action 330 Super G gives dependable, economical performance. Perfect balance and soft handgrip make it painless, while rotating steel guard helps make it safe.

Tested and listed by Underwriters Laboratories, Inc.

Weighs 6¾ pounds and is 14" long.



The G-200 Piston Tool.
A special light-to-medium duty tool that can be either breech or muzzle loaded, yet still works on the piston principle.

Simple to use, and simple design make for minimum maintenance and downtime.

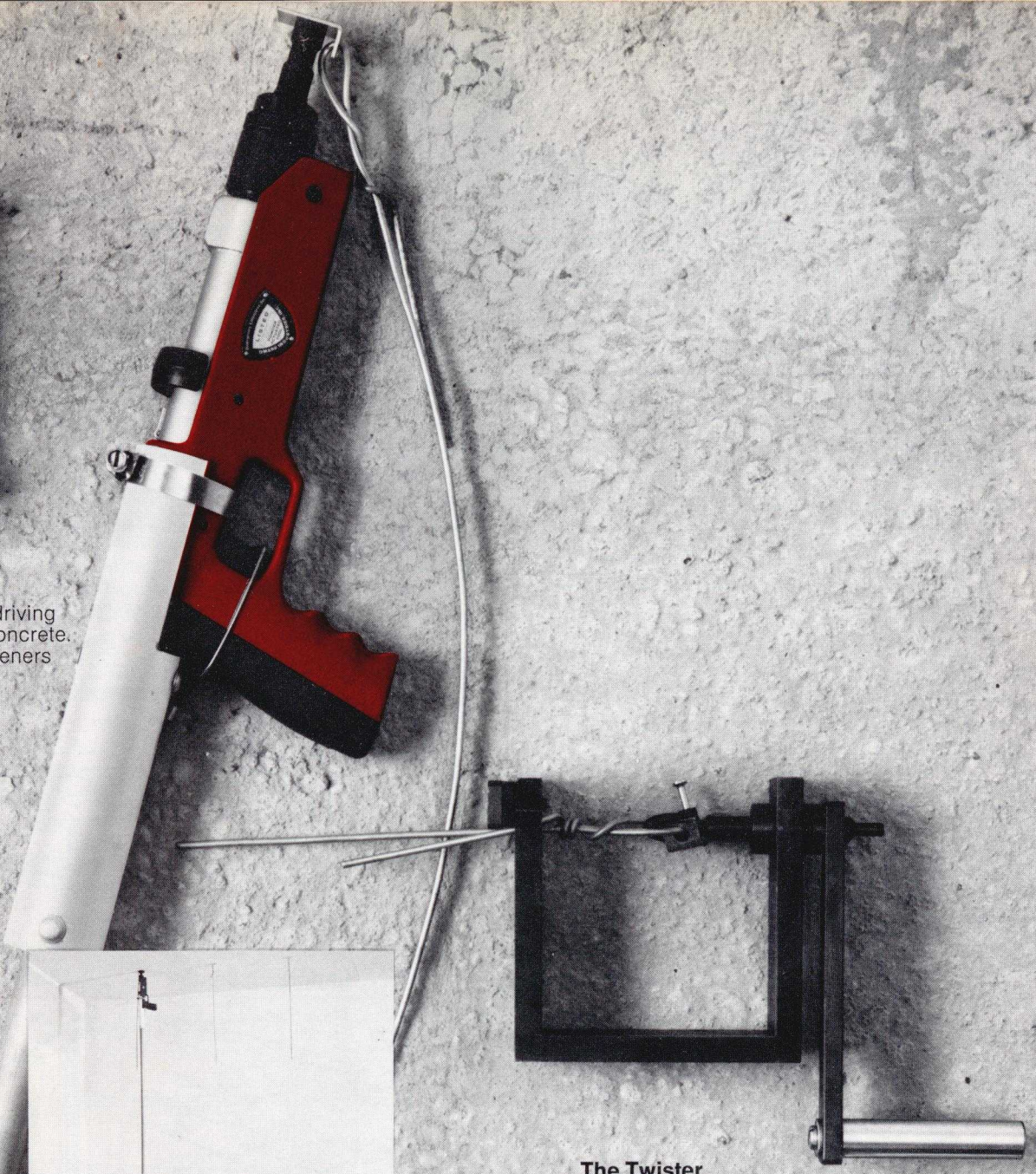
Drives ¼" diameter fasteners, ½" to 3" long. Headed or threaded.

Great for door bucks, window frames, conduit clips, hanger straps and furring.

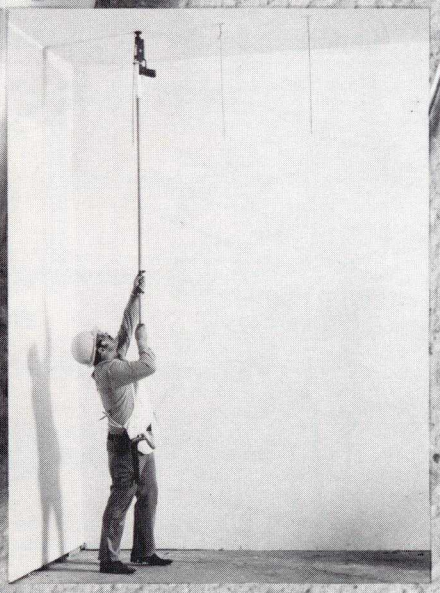
Uses plastic encased .22 caliber loads, levels 2 thru 4.

Weighs 4⅞ pounds and is 14" long. Comes with tool box, safety goggles, spare piston, maintenance tools, and operator's manual.

The "Fist Fastener"
Simple, safe and sure.
Hammer force against driving ram forces fastener into concrete. Handles ¼" diameter fasteners up to 3" long.
Just like driving a nail.



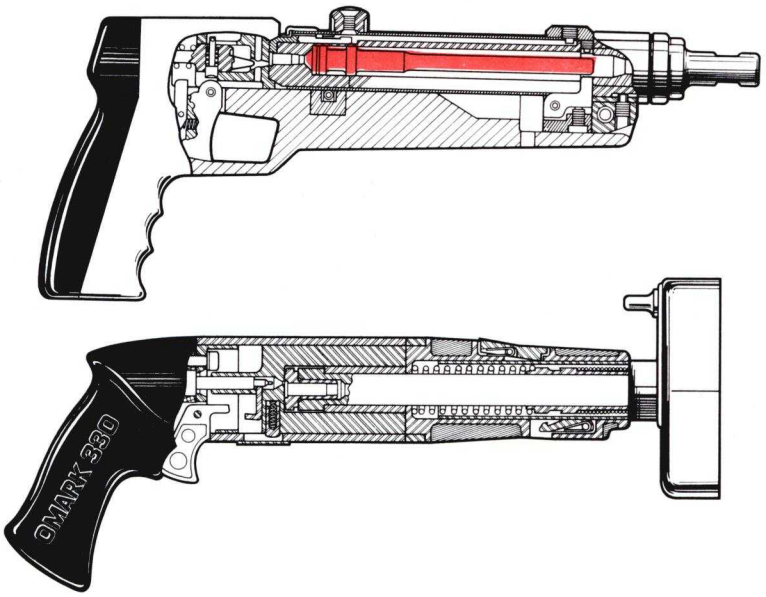
The Twister.
Pre-ties wire to ceiling clips with a few quick turns of the handle. Makes suspended ceiling installations even more streamlined. Even more profitable.



Pole Tool Assembly. A timesaver.
Extends workman's reach by six feet enabling him to fasten into ceilings up to 12' with both feet on the floor. No scaffolding, no ladders.
Features soft rubber hand grip at bottom and a triggering sleeve that slides upward to fire tool; thus all momentum is exerted in one direction—up, toward the work surface.
Tool adapter at top is of lightweight aluminum and will accept either an 821 or 823 Muscle Tool.

Pin & Clip Duo.
This new assembly combines a positive drive fastener pre-fitted in angle clip. Just insert pin in tool and fire. Done. Fluted washer and eyelet in clip help align fastener for 90° angle and ensures firm hole.

2 types of power, for all types of jobs.



Piston Power

This type of tool packs plenty of muscle, but through the captive piston principle.

Once the fastener is at rest against the surface of the material to be fastened, it can be driven. The energy from a low level power load then drives a captive piston which, in turn, pushes the fastener into the material.

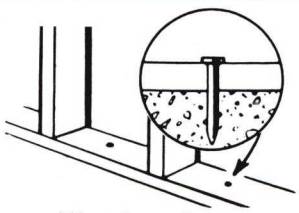
This is how the Omark 721, 821, 823, 888 and G-200 work.

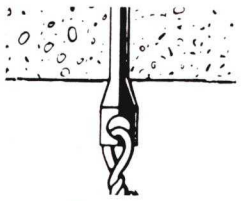
Standard Power

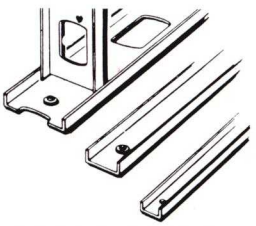
Under this principle, the fastener is positioned freely in the barrel. Power from the load acts on the fastener directly, driving it at great speed into the material being fastened.

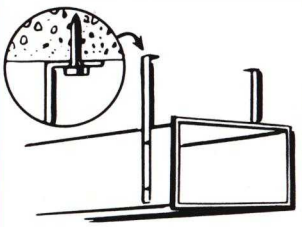
Affords highest power, securest fastenings where exceptional strength is required.

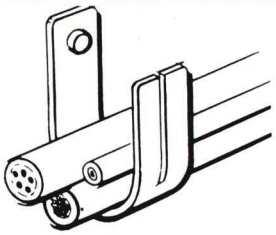
This is how the 330 Super G, BP-4 and BP-8 work.

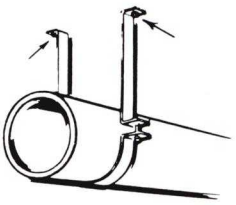

Wooden plates, Partitions

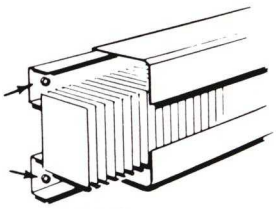

Tie wires, Suspended ceilings*

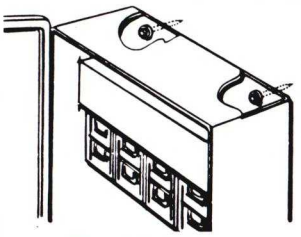

Lathing channel

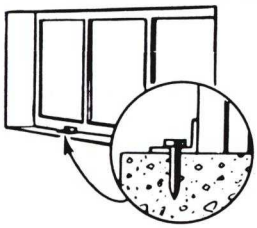

Ductwork straps*

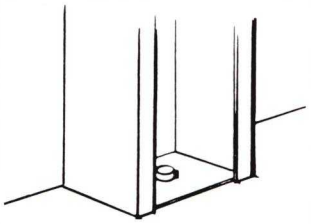

Cable clips, brackets

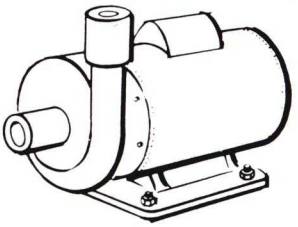

Pipe straps*

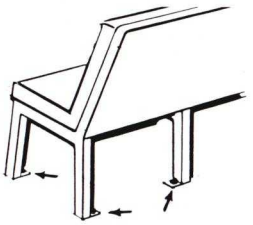

Wall heaters, convectors

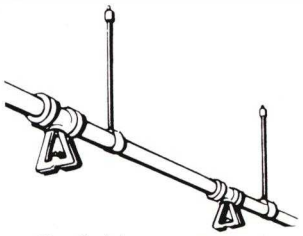

Electric boxes

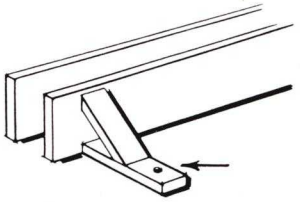

Window frames

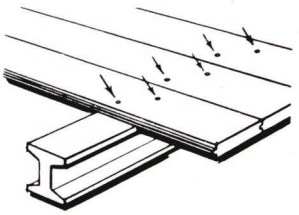

Door bucks

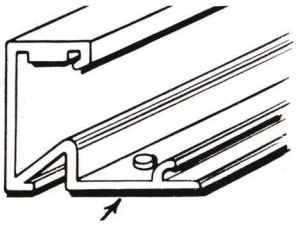

Machinery


Seats, benches


Sprinkler systems*


Concrete screeds

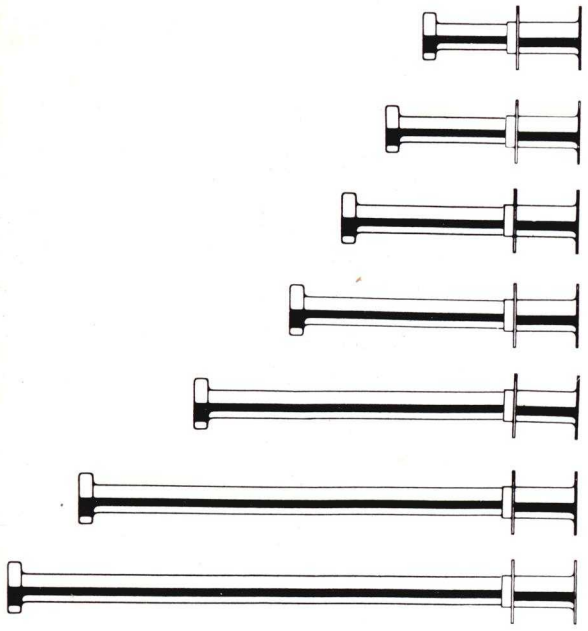

Roof decking


Curtain walls

*When fastening exceptionally heavy items overhead, use standard velocity tool.

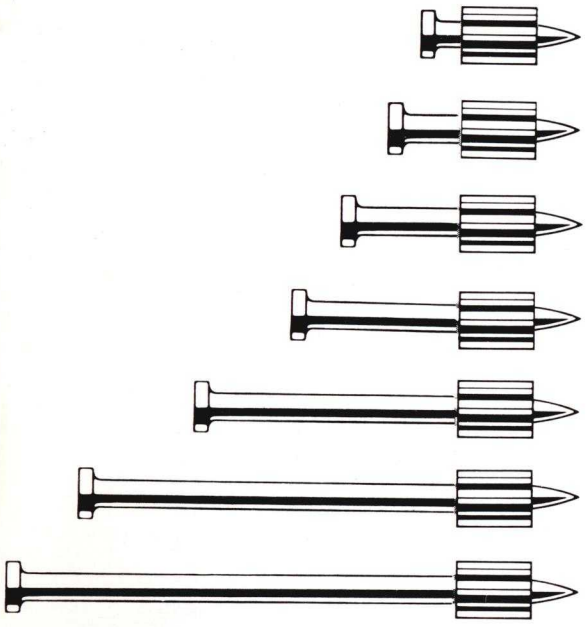
Fasteners for low velocity and hammer drive tools.

Positive Drive Fasteners (Headed 1/4")



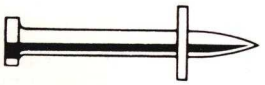
Cat. No.	Part No.	Shank Length	Shank Dia.
PD75	33729	3/4"	.130"
PD100	33731	1"	.130"
PD125	33732	1-1/4"	.143"
PD150	33733	1-1/2"	.143"
PD200	33734	2"	.143"
PD262	33735	2-5/8"	.143"
PD300	33736	3"	.143"

Plastic Fluted Fasteners (Headed 1/4")



Cat. No.	Part No.	Shank Length	Shank Dia.
AF75	47846	3/4"	.125"
AF100	47847	1"	.143"
AF125	47848	1-1/4"	.143"
AF150	47849	1-1/2"	.143"
AF200	47850	2"	.143"
AF262	47764	2-5/8"	.143"
AF300	47880	3"	.143"

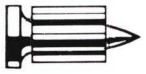
Metal Washered Fasteners (Headed 1/4")



Cat. No.	Part No.	Shank Length	Shank Dia.
MW 50	47800	1/2"	.125"
MW 75	47804	3/4"	.125"
MW 100	47805	1"	.143"
MW 125	47806	1-1/4"	.143"
MW 150	47807	1-1/2"	.143"
MW 200	47808	2"	.143"
MW 262	47763	2-5/8"	.143"
MW 300	47810	3"	.143"

Fasteners for low velocity and hammer drive tools.

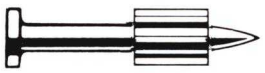
Plastic Fluted Fasteners (Headed 5/16")



Cat. No.	Part No.	Shank Length	Shank Dia.
**S50	17492	1/2"	.143"
*58	12747	5/8"	.143"
F75	13819	3/4"	.125"
F100	13820	1"	.143"
F125	13821	1-1/4"	.143"
F150	12881	1-1/2"	.143"
F200	12882	2"	.143"
F262	12883	2-5/8"	.143"
F300	12884	3"	.143"

*For High Density Concrete and up to 3/8" Steel.
**For Steel (knurled).

Track Fasteners (Headed 5/16")

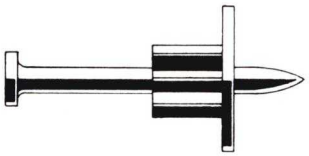


Cat. No.	Part No.	Shank Length	Shank Dia.
TF75	12323	3/4"	.130"
TF100	12324	1"	.143"
TF125	12408	1-1/4"	.143"
TF175	12714	1-3/4"	.143"

Packaged in 1,000 unit container

Metal Washered Fasteners

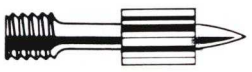
(Headed 5/16"-3/4" Washer)

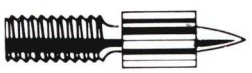


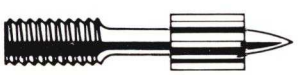
Part No.	Shank Length	Shank Dia.
22091	1-1/2"	.143"
22092	2"	.143"
22093	2-5/8"	.143"
22094	3"	.143"

Plastic Fluted Fasteners

(Threaded 1/4"-20 U.N.C.)



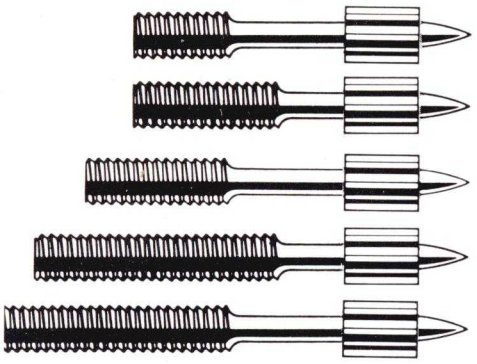




Cat. No.	Part No.	O.A. Length	Thread Length	Shank Dia.
	21558**	1-3/16"	3/4"	.143"
AT125-1/4	47890	1-1/4"	1/4"	.143"
AT125-1/2	47885	1-1/4"	1/2"	.143"
AT150-1/2	47896	1-1/2"	1/2"	.143"

Plastic Fluted Fasteners

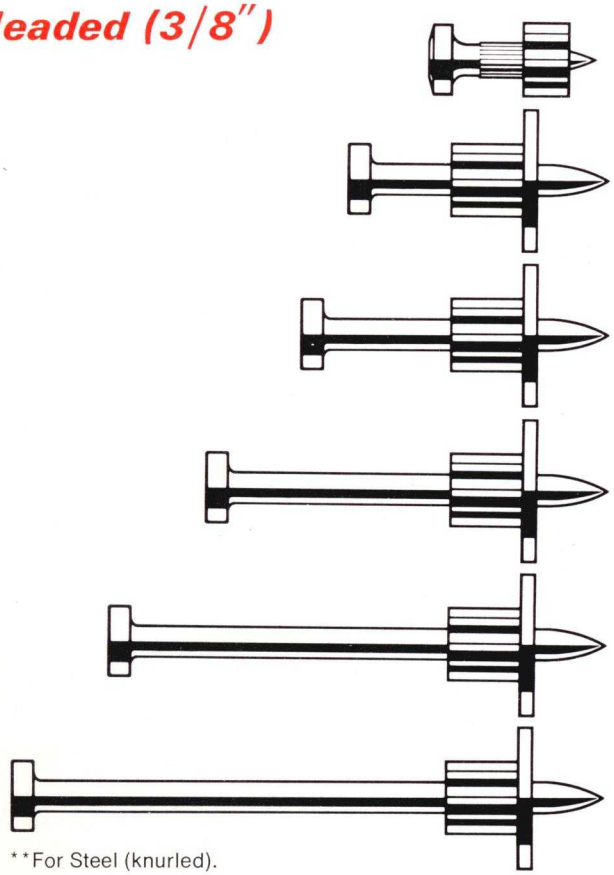
(Threaded 1/4″-20 U.N.C.)



Cat. No.	Part No.	O.A. Length	Thread Length	Shank Dia.
AT175-1/2	47891	1-3/4″	1/2″	.143″
AT175-3/4	47732	1-3/4″	3/4″	.143″
AT200-3/4	47733	2″	3/4″	.143″
AT225-1-1/4	47736	2-1/4″	1-1/4″	.143″
AT250-1-1/4	47892	2-1/2″	1-1/4″	.143″

Fasteners for the 888

Headed (3/8″)

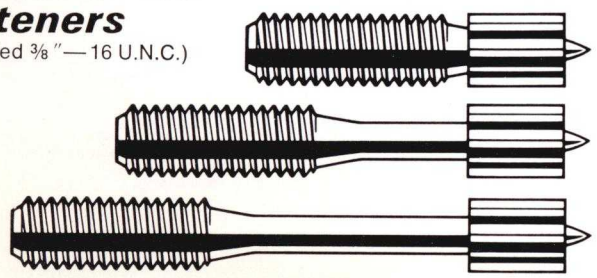


Part No.	Shank Length	Thread Length	Shank Diameter
21650**	¾″		.172
21771	1⅜″		.172
21772	1⅝″		.172
21773	2⅛″		.172
21774	2⅝″		.172
21775	3⅛″		.172

**For Steel (knurled).

Plastic fluted fasteners

(threaded ⅜″—16 U.N.C.)

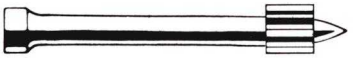


Part No.	Overall Length	Thread Length	Shank Diameter
21230**	1¾″	1″	.202
21226	2⅜″	1″	.202
21228	3″	1″	.202

**For Steel (knurled).

Fasteners for standard velocity tools, 1/4" barrel.

Headed 1/4"

	Cat.No.	Part No.	Overall Length	Thread Length	Shank Dia.	Suggested Applications
	H-90 ⊕	47090	1"		5/32"	Angle iron to 1/4" thick, conduit clips, sheet metal. Use 47616 Disc on light sheet metal.
	H-91	47091	1-9/32"		5/32"	Door bucks, aluminum frames conduit clips, junction boxes to 1/8" thick, 47616 Anchor Disc. To concrete or 3/8" steel.
	H-92	47092	1-3/8"		5/32"	Same as H-91, where head protrusion is not a problem.
	H-93	47093	1-25/32"		5/32"	1" thick wood, Cemesto board, rubber bumpers, insulation with 47616 Anchor Disc. Also into 3/8" thick steel.
	H-94	47094	2-3/8"		5/32"	1" thick wood to soft concrete, insulating material, rubber bumpers, 47616 Anchor Disc. 1-5/8" wood to 1/4" steel.
	H-94A	47572	2-5/8"		5/32"	Same as H-94, but for soft concrete or cinder block.
	H-95*	47095	3-1/32"		5/32"	2" thick interior wood partition plates, sleepers to medium concrete.
	H-96	47096	3-1/2"		5/32"	2" thick wood, insulating material, to soft concrete, with 47616 Anchor Disc, or 2-5/8" thick wood into hard concrete.
	H-99 ⊕	47099	1-1/4"		5/32"	Knurled to prevent rotation U-clips, angle clips up to 1/8" thick.

Eyelet 1/4"

	H-98	47098	1-7/8"		11/64	Tie wires, suspended ceilings, wire mesh. Holds up to # 11 wire.

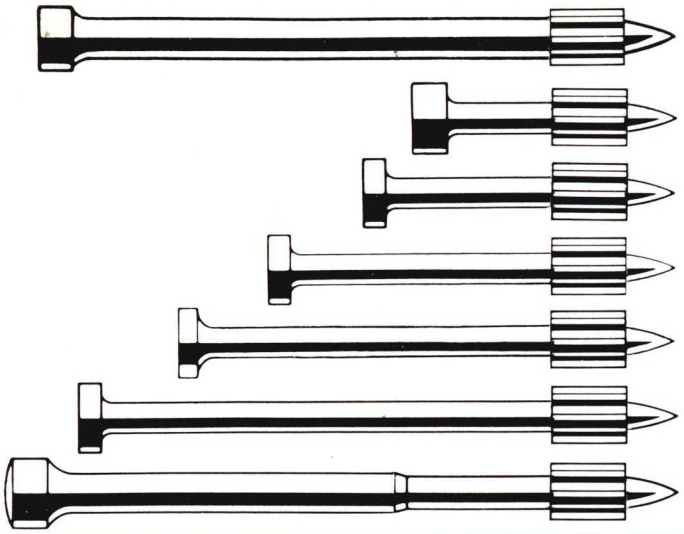
Threaded 1/4"—20 U.N.C.

	T-27 ⊕	47027	1-3/16"	1/2"	5/32"	Conduit clips, larger boxes, clamps, brackets.
	T-28 ⊕	47028	1-7/16"	3/4"	5/32"	Furring strips, acoustic materials, brackets, fixtures, wire partitions.
	T-29 ⊕	47029	1-13/16"	1-1/8"	5/32"	Cast bases, light machinery, furring, thick materials.
	T-31	47031	1-3/4"	1/2"	5/32"	Door bucks, conduit clips, corrugated sheet metal, light fixtures.
	T-32	47032	2"	3/4"	5/32"	Junction boxes, signs, pipe straps, light machinery, ductwork.
	T-33	47033	2-3/8"	1-1/8"	5/32"	Acoustical and insulating material, furring strips, light machinery.
	T-37	47037	1-3/4"	3/4"	11/64'	Same as T-32, T-33, for extra hard concrete, or into steel to 3/8" thick.
	T-38	47038	3-1/8"	1-7/8"	5/32"	Light machinery, door bucks where shimming is needed.
	T39t	47039	2-1/4"	1"	3/16"	Same as T-32, T-33 in hard concrete, also into 3/8" thick steel.

⊕ Recommended for steel
t Approved by Factory Mutual for supporting sprinkler pipes.
* I.C.B.O. Approved

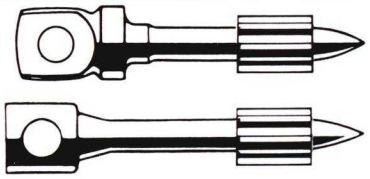
Fasteners for standard velocity tools, 3/8" barrel.

Headed 3/8"



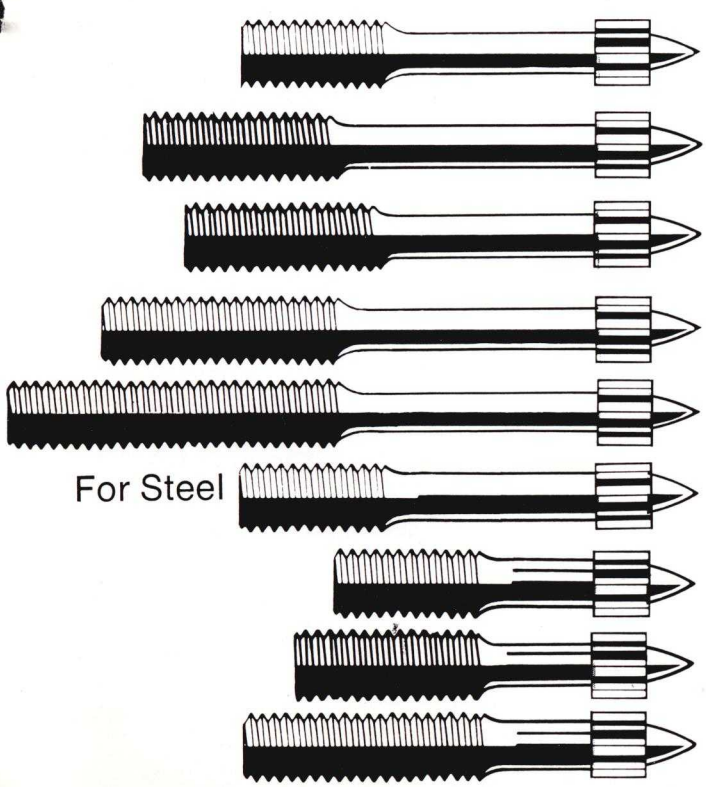
Cat.No.	Part No.	Overall Length	Thread Length	Shank Dia.	Suggested Applications
H-67	47067	3-5/16"		7/32"	"Builder's Special" for homes: 2x4's, 2x6's, walls, plates with washer.
H-202	47202	1-3/8"		11/64"	Sheet metal straps, conduit clips, 16 ga. channel, door bucks.
H-203	47203	1-5/8"		11/64"	1" thick furring strips. Cemesto board, thin insulation.
H-204	47204	2-1/8"		11/64"	1" thick wood or insulating mat'l. to hard concrete; furring and partition plates.
H-204A	47575	2-5/8"		11/64"	Fasten 2x4 to extra hard concrete.
H-205	47205	3-1/8"		11/64"	2" thick interior partition plates or insulating material.
H-208	47208	3-1/2"		7/32" 3/16"	Specially for 2x4 sills.

Eyelet 3/8"



H-190	47190	1-13/16"		3/16"	Tie wires, suspended ceilings, wire mesh or Gunite, Etc. Holds up to #7 wire.
H-191	11948	1-7/8"		11/64"	Tie wires, suspended ceilings, wire mesh or Gunite, Etc. Hold up to #7 wire.

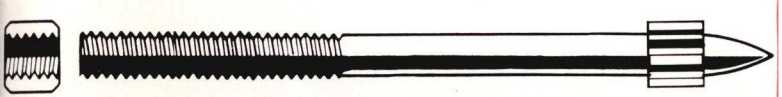
Threaded 3/8"—16 U.N.C.



T-40	16199	2-3/8"	3/4"	7/32"	Heavy light fixtures, brackets, hangers for pipe with 47604 couplings.
T-42†*	47042	2-15/16"	1"	7/32"	Heavy light fixtures, brackets, hangers for pipe with 47604 couplings.
T-42S	16092	2-11/16"	1"	7/32"	Heavy light fixtures, brackets, hangers for pipe with 47604 couplings.
T-43†*	47043	3-3/16"	1-1/4"	7/32"	Light or medium machinery, ventilating fans, heavy equipment, conveyors.
T-44†*	47044	3-11/16"	1-3/4"	7/32"	Light or medium machinery with thick bases or where shimming is needed.
T-71†⊕	47071	1-7/8"	3/4"	1/4"	Heavy base machinery for shimming, steel fabrication, sway braces, pumps, blowers. T-75 is F.M. approved for horizontal fastening in steel.
T-41†*⊕	47041	2-1/8"	1"	7/32"	Brackets, light fixtures, vent fans, heat exchangers, cable trays, bus duct.
T-75†*⊕	47075	2-3/8"	1-1/4"	1/4"	Heavy base machinery for shimming, steel fabrication, sway braces, pumps, blowers. T-75 is F.M. approved for horizontal fastening in steel.
T-77⊕	47077	2-3/8"	3/4"	1/4"	Heavy base machinery for shimming, steel fabrication, sway braces, pumps, blowers, pipe hangers, angle iron, pipe racks, conveyors.

For Steel

Threaded 1/4"—20 U.N.C.



T-88'	47088	3-5/8"	1-3/8"	3/16"	**For use in 3/8" barrel tools only—Driver-head parts No. 47611 included.** Insulation, partition plates, rubber bumpers, acoustical mat'l., 2" thick sills, rafter plates.

* Listed by Underwriters Laboratories
† Approved by Factory Mutual for Supporting sprinkler pipes
⊕ Recommended for steel

Omark accessories

There aren't many ways to improve upon an Omark tool, or the jobs they do. But here are a few ways to make the going even easier.

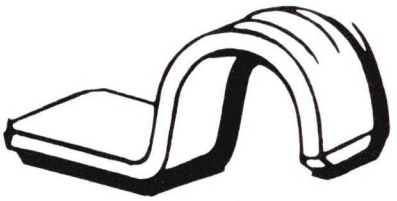
New Pin & Clip Duo

Pre-assembled positive drive pin and angle clip makes overhead fastening faster and easier.

Part No.	Description
22097	For use with 5/16" barrel; fastener size, 1¼" long.

Conduit clips

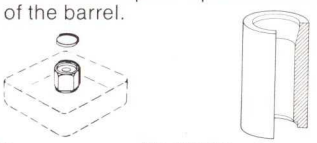
Used for fastening electrical and other types of conduit and tubing.



Part No.	Description	Packed Per Box
47631	½" EMT (Thin wall)	100
47632	¾" EMT	100
47633	1" EMT	100

Disc adaptor

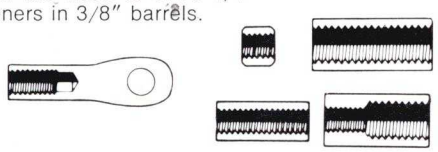
Used to hold the disc on center until the fastener passes through into the material being fastened. The adaptor is placed on the muzzle end of the barrel.



Part No.	Description
45217	Magnetic—for use with ¼", Model 330 BP-4 and Super G
45218	Magnetic—for use with ⅜", Model 330 BP-8
45843	Non-Magnetic—for use with ¼", Model 330 BP-4 and Super G
45842	Non-Magnetic—for use with ⅜", Model 330 BP-8
45215	Hole Locator, ¼"
45216	Hole Locator, ⅜"
20948	⅝" Disc adaptor (Slips on to 821 & 823 tools)
13824	¾" Disc adaptor (Slips on to 821 & 823 tools)
13222	⅞" Disc adaptor (Slips on to 821 & 823 tools)

Driver heads and couplings

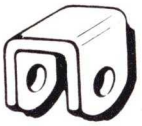
Omark couplings are used to connect threaded rods or tie wires to the fasteners. Driver heads are used to drive 1/4" fasteners in 3/8" barrels.



Part No.	Description	Packed Per Box
47601	Couplings, O'all length ⅞". ¼"-20 UNC-1B Threads	50
47602	Couplings, O'all length 1". ¼"-20 and ⅜"-16 UNC-1B Threads	100
47604	Couplings, O'all length 1⅛". ⅜"-16 UNC-1B Threads	100
47611	Driver Heads, O'all length 5/16". ¼"-20 UNC-1B Threads	100
47612	Couplings, eye type. O'all length 1 1/16" ¼"-20 UNC-1B Thread, ¼" hole	100

Miscellaneous accessories

"U" CLIPS—with ⅛" Pilot Hole for hanging wires from ceiling. Part No. 47656.



ANGLE CLIPS—also for wire hanging. ⅞" x 1⅛" x ¼". Part No. 47619.

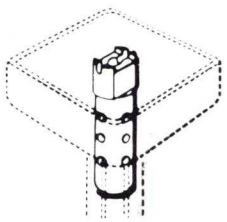
ANCHOR DISC—give headed fasteners better holding ability. Sold by the pound.

Part No.	Description
47616	Anchor Disc, 9/16" (330 Models)
47617	Anchor Disc, ¾" (330 Models)
47651	Anchor Disc ⅝"
47652	Anchor Disc, ½"
47904	Anchor Disc, ⅜"
13884	Anchor Disc, ¾" (Lo-V)
47653	Anchor Disc, ⅞"

(Contact your Omark distributor for a complete selection of barrel nuts.)

Magnetic clip holder

Adaptor used to center and hold the clip to the barrel before fastening. Used with the standard guard.

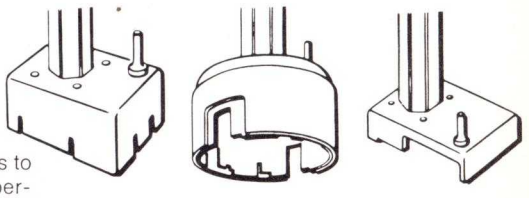


Part No.	Description
60842	For use with ¼" barrel, Model 330 BP-4 and Super G
60843	For use with ⅜" barrel, Model 330 BP-8

Guards

Omark offers a wide variety of guards to assure maximum safety under all operating conditions.

Standard guards are for door bucks, conduit clips, lathing channel, hanger strap, aluminum sash, Unistrut, and other applications. Special guards are available on request. When ordering special guards, please furnish models of tool and barrel size together with such pertinent information as applications and material to which objects are fastened.



Part No.	Description
12266	Spall Guard for 721 fastening tool
66014	Spall Guard for G-200 fastening tool

Guards for 330 Fastening Tools

60775	1½" Door Buck Guard
60774	2" Door Buck Guard
60773	Lathing Channel Guard
60776	Hanger Strap Guard
60778	Conduit Clamp Guard
62035	Aluminum Sash Guard
60840	Universal Unistrut Guard

Precision power loads.

Omark power loads

Omark "tuned" power loads deliver just the right amount of "umph" for all Omark tools. Consistently.

Available in an assortment of calibers and strengths, and coded according to the specifications of the Powder Actuated Tool Manufacturers Institute.

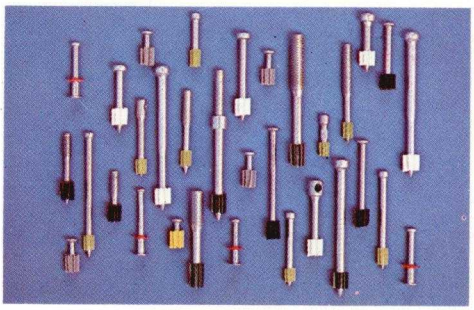
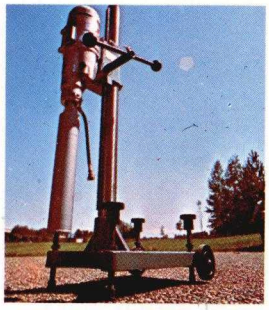
Load strengths are clearly indicated by numbers 1 through 12 on each box; the higher the number, the more potent the charge. As a double check, each load itself is also color coded.

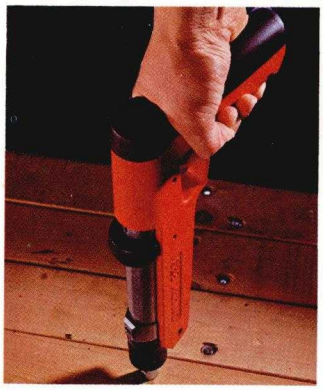
PATMI POWER LOAD IDENTIFICATION

Load Number	Cartridge Case Color	Load Color	Load Number	Cartridge Case Color	Load Color
1	Brass	Gray	7	Nickel	Gray
2	Brass	Brown	8	Nickel	Brown
3	Brass	Green	9	Nickel	Green
4	Brass	Yellow	10	Nickel	Yellow
5	Brass	Red	11	Nickel	Red
6	Brass	Purple	12	Nickel	Purple

LOAD TYPES AND TOOLS	Cat. No.	Part No.	Color	Power Level	Case
.22 Cal. Load for Series 700	1A2	12403	Gray	1	Brass
.22 Cal. Load for Models 821/823	2A2	12061	Brown	2	Brass
	3A2	12062	Green	3	Brass
	4A2	12063	Yellow	4	Brass
.22 Cal. Load for Series G-200 (Plastic Encased)	L-222	66263	Brown	2	Brass
	L-322	66264	Green	3	Brass
	L-422	66265	Yellow	4	Brass
.25 Cal. Load for Series 110	1C5	65394	Gray	1	Brass
	2C5	65395	Brown	2	Brass
	3C5	65396	Green	3	Brass
.22 Cal. Load for Series 330	3W2	12458	Green	3	Brass
	4W2	12459	Yellow	4	Brass
	5W2	12460	Red	5	Brass
	6W2	12462	Purple	6	Brass
	7W2	66566	Gray	7	Nickel
	8W2	60912	Brown	8	Nickel
.22 Cal Load for Series 330					
.25 Cal. Load for Series 330	6W5	12463	Purple	6	Nickel
	7W5	60905	Gray	7	Nickel
.38 Cal. Load for Series 410	MG	60901	Green	9	Nickel
.22 Cal. Load for Model 888	3C2	60907	Green	3	Brass
	4C2	60908	Yellow	4	Brass
	5C2	60909	Red	5	Brass
	6C2	60910	Purple	6	Brass
Short .22 cal. for low velocity tools	1S2	20026	Gray	1	Brass
	2S2	20027	Brown	2	Brass
	3S2	20226	Green	3	Brass
	4S2	20227	Yellow	4	Brass
.22 Cal. "R Type" for low velocity tools	R1	21737	Gray	1	Brass
	R2	21738	Brown	2	Brass
	R3	21739	Green	3	Brass
	R4	21560	Yellow	4	Brass

Omark Systems.



For fastening to concrete and steel with safety and speed.

We've shown a lot of products between these covers. What we haven't shown, but should mention, is the work that's gone into them. About 25 years' worth.

Two and a half decades of an unwillingness to be satisfied. The results are innovations and refinements; constantly improving old products, unveiling new ones.

To the man who uses Omark tools this means a tough job made easy. To the contractor who buys them, it means a slow costly job done in less time. For less money.

We meet Federal OSHA Regulations. And more.

We've built in enough safety features to make sure all our tools meet every federal, state and local safety code. Features to protect the operator and prevent accidental discharge. We wouldn't have it any other way.

That's why we build in a device that requires all tools to be pressed firmly against work surface before they can be fired.

That's why we make our standard velocity tools so that they must be held within 5 deg. of a right angle to work surfaces in order to be fired.

And that's why we build strong steel guards on standard velocity models to contain any loosened particles.

Omark Powder Actuated Tools are designed and manufactured to meet the design requirements in the "American National Standard Safety Requirements for Powder Actuated Fastening Systems ANSI A10.3-1972, and conform to the United States Department of Labor Occupational Safety & Health Administration Safety & Health Standards Rules & Regulations for Explosive Actuated Fastening Tools.

The Occupational Safety & Health Administration Regulations for Construction require that only trained employees be allowed to operate a powder-actuated tool. So Omark provides this job-site training, no charge.

Men as reliable as the tools.

If a problem or question crops up, we think there should be someone around with an answer. There is. Your Omark distributor. He knows as much about our tools and systems as we do. He should, we trained him.

So he can train you and your men, maintain your tools and deliver your supplies. Reliably.

Other products. Other countries.

Omark construction tools also include concrete and steel cutting systems. Diamond edged saw blades and diamond drilling apparatus.

Like our fastening systems, these tools are designed and produced by a staff of highly skilled perfectionists. Working with up-to-the-minute equipment in the most modern factories. In America, Canada, Australia and Belgium.

We don't say this to impress you, but to convince you.

Because if we can solve construction problems in over 40 countries around the world, chances are we can solve yours.

Construction Tools Division

OMARK INDUSTRIES

PATMI Member Powder Actuated Tool Manufacturers Institute, Portland, Oregon 97222

OMARK products are made under applicable U.S. and foreign patents.